PURPOSE

To establish a procedure for processing complaints submitted to the Massachusetts Department of Transportation, Highway Division (MassDOT) for potential salt contamination affecting public, private, industrial and commercial water supplies.

PROCEDURE

General

1. Complaints of alleged elevated salt concentrations in potable water supplies should be submitted, in writing, together with water quality data and other evidence, by the complainant, to the respective MassDOT District Highway Director (DHD) where the water supply is located. The complaint submittal must include at least one recent water analysis from a laboratory that is certified by the Massachusetts Department of Environmental Protection (MassDEP) for drinking water for the following constituents: sodium, calcium, chloride and specific conductance. The complaint shall then be forwarded to Environmental Services through the Chief Engineer. Environmental Services personnel shall acknowledge the complaint and send appropriate forms to the complainant. A copy of the general instructions, release agreement, or denial letter shall be sent to the Director of Roadway Operations, the appropriate District Highway Director and MassDOT General Counsel. Any complaint that is sent to MassDOT by an attorney shall be forwarded by Environmental Services to the General Counsel. The acknowledgment, response and investigation of such complaints shall be conducted in cooperation between Environmental Services and General Counsel. A flow chart outlining the procedure to respond to salt complaints is included as Appendix 1. Copies of forms and examples of general instructions letters for private and public salt complaints are provided herein as Appendices.

2. After the forms are completed and returned, Environmental Services personnel shall make an initial site visit. The findings from that site visit shall provide the basis for a determination to either: (a) conduct a detailed investigation or (b) deny the complaint.

3. If a detailed investigation is warranted, water samples shall be collected monthly by MassDOT personnel or its designee from the water sources of concern. Monthly water samples shall be collected for a minimum of one-year; however, sample collection may be reduced to six months if a clear preponderance of the evidence determines the significant source of the salt in the water supply to be from MassDOT. The specific details on an accelerated sampling program are further defined in the Well Sampling section of this SOP. The investigation and data collection shall be conducted in a legally and scientifically defensible manner and shall be properly documented. The monthly and annual fluctuations of the salt content of the water sources shall be compared with historical MassDOT and municipal salt application data in order to determine whether MassDOT's winter maintenance operations are a significant source of the salt contamination of the complainant's water supply.

4. After a sufficient period of data collection, water sampling and analysis, Environmental Services personnel shall make a determination that: (a) the Department institute remedial action; (b) the complaint should be denied; or (c) that continued data collection is needed to further evaluate the drinking water supply or define sources of salt. In no instance shall a remedial action be decided unless six monthly samples have been collected that clearly demonstrates that MassDOT is the significant source of salt contamination. If remedial action is recommended, a specific, appropriate, cost-effective remedial action shall be designed and implemented by Environmental Services and District personnel. Before any remedial action is begun, the complainant must sign a release form that relieves MassDOT of all past liability related to the elevated salt concentrations in the water supply of concern. The release shall be reviewed by the General Counsel prior to its submittal to the complainant. Once MassDOT receives the signed release agreement the complainant shall be put in queue for remedial action. If the complaint is to be denied, Environmental Services personnel shall prepare the letter of denial, documenting the basis for denial, for the Chief Engineer's signature. Before submittal to the Chief Engineer, the denial letter shall be reviewed by the General Counsel. The signed letter shall then be forwarded to the complainant and copied to the appropriate District Highway Director.

Private Well Complaints

1. Salt contamination complaints for private wells shall be investigated if the chloride concentration in water from the well is 250 milligrams per liter (mg/l) or greater. Two hundred and fifty mg/l is the Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection (MassDEP) defined "Secondary Maximum Contaminant Level" for chloride. Private well complaints shall also be investigated if any resident of the property is under a physician's care and is required to be on a specific, documented, sodium-restricted diet (see Appendices 4 & 5). The specific sodium-restricted diets and the corresponding sodium concentrations in drinking water are:

a) A documented sodium restricted diet of less than 1000 milligrams per day (mg/d) and the sodium concentration in the water supply exceeds 20 milligrams per liter (mg/l).

b) A documented sodium restricted diet of less than 2000 mg/d and the sodium concentration in the water supply exceeds 40 mg/l.

Public Water Supplies

1. Massachusetts Department of Environmental Protection "Drinking Water Regulations" 310 CMR 22, defines a "Public Water System" as follows:

"Public Water System" means a system for the provision to the public of piped water for human consumption, through pipes or other constructed conveyances, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such a system and used primarily in connection with such system, and (2) any collection or pre-treatment storage facilities not under

such control, which are used primarily in connection with such system. A public water system is either a community water system or a non-community water system as defined by MassDEP regulation 310 CMR 22.02.

2. All investigation and remediation of elevated salt concentration complaints of public water supplies shall be conducted in cooperation with the MassDEP, since MassDEP regulates all public water supplies.

3. In no instance shall MassDOT designate the roads in an area of a public water supply as a reduced salt zone until such time that the owner/operator complies with requests for information further described herein and MassDOT has an opportunity to review the monthly sampling results. Furthermore, MassDOT reserves the right to discontinue maintaining a reduced salt zone in the event the owner/operator of the public water supply fails to provide the necessary monthly sampling results which will be used as a measure of the reduced salt zones effectiveness. In addition, MassDOT may elect to discontinue maintaining a reduced salt zone in the event that monthly data or other remedial efforts render it unnecessary. MassDOT reserves the right to institute Best Management Practices to reduce salt in lieu of a formally designated reduced salt zone.

The requirements and general procedures for further consideration/participation by MassDOT in the investigation of a public water supply complaint for public systems further described as a Community, Non-Community, or Industrial Water System is described below:

A. Community Water Systems

1. These include all municipal water supplies. MassDEP generally requires these systems to provide intensive, regular water analyses and to conduct detailed hydrogeologic studies. These requirements are described in 310 CMR 22 and other MassDEP documents. The effects of MassDOT salt application practices on these systems can be quantified by means of a salt balance study. Such a study superimposes salt application data on the available hydrogeologic and water quality data for these water supplies.

2. In order for MassDOT to conduct a salt balance study, Community Water Systems that file a salt contamination complaint are required to provide MassDOT with a copy of the hydrogeologic and analytical reports that they have previously submitted to MassDEP (see Appendices 6 & 7). Community Water Systems that are required to provide regular water analyses to MassDEP shall be required to provide MassDOT with monthly water analyses for sodium, calcium, chloride and specific conductance to document their salt complaint. This data shall help to define the effects of MassDOT salting on the public water supply and shall provide a basis for monitoring the effectiveness of any remedial action.

3. MassDOT shall conduct this monthly water sampling and analysis for systems using less than 4,000 gallons per day (gpd).

4. Community Water Systems are required, to the extent practicable, to provide MassDOT with data on the quantity of salt that they pump from their water sources. MassDOT can then compare these quantities of

pumped salt with the quantities of salt that MassDOT applies seasonally to nearby highways and/or stockpiles at nearby salt storage facilities.

B. Non-Community Water Systems

1. These are usually small systems that provide water for a restaurant or business. These systems are required to comply with 310 CMR 22. MassDOT policy is that investigation and remediation of all public water supplies should be conducted in cooperation with the MassDEP. Accordingly, MassDOT shall deny any public water supply salt contamination complaint that is from a water supplier that does not document full compliance with 310 CMR 22 for at least one year, including the entire period of the MassDOT investigation. This compliance must be confirmed by the appropriate MassDEP regional office before MassDOT can institute remedial action.

2. This policy shall prevent a public water supplier from simply registering with the MassDEP but not complying with the MassDEP requirements. In addition, public water systems that comply with MassDEP regulations are routinely reviewed and inspected by MassDEP. MassDOT's Salt Remediation Unit shall work with MassDEP personnel in investigating and remediating salt contamination complaints of public water supplies.

3. Non-Community Water Systems that are required to provide regular water analyses to MassDEP may be required to provide MassDOT with monthly water analyses for sodium, calcium, chloride and specific conductance to document their salt complaint. This data shall help to define the effects of MassDOT salting on the public water supply and shall provide a basis for monitoring the effectiveness of remedial action.

4. For systems using less than 4,000 gpd, this monthly water sampling and analyses shall be conducted by MassDOT.

5. Non-Community Water Systems that contain more than 20 mg/l of sodium shall be requested to post a sign at every water tap that might be used for drinking water. The sign should show the maximum measured sodium concentration in that water supply. The sign should also contain an advisory that individuals who are on a 2,000 mg/day, or less, sodium restricted diet, should contact their physicians before consuming water from that source.

C. Industrial and Commercial Water Supplies

1. Salt contamination complaints of Industrial and Commercial Water Supplies are generally based upon the cost to an industry for the installation and operation of a water treatment system to make the water suitable for an industrial process. These complaints shall be investigated in cooperation with the personnel of the industrial or commercial facility. If MassDOT winter maintenance practices are found to be a significant source of salt contamination to the water used in the industrial process, MassDOT shall institute appropriate remedial action in the event salt contamination has a negative impact on the industrial process.

2. For systems using less than 4,000 gpd, this monthly water sampling and analyses shall be conducted by MassDOT.

Well Sampling

1. MassDOT shall collect the monthly samples for laboratory analysis on behalf of the private well owner, or for public water supply systems using less than 4,000 gpd. In addition to field parameters, the target constituents for the monthly laboratory analysis include sodium, calcium, chloride, and specific conductance. The first sampling event shall include analysis of additional constituents to serve as a baseline and shall include but not be limited to arsenic, barium, copper, iron, lead, manganese, and nitrates. The first three months of sampling shall include laboratory analysis for the presence of total coliform. Analysis of other constituents (i.e., petroleum, pesticides, and synthetic organics) shall be added if there is a documented source of contamination in the area.

2. Samples shall be analyzed by a Massachusetts MassDEP Certified laboratory for the target constituents.

3. MassDOT may elect to collect and analyze an additional baseline sample of the existing well prior to well replacement. MassDOT shall collect and analyze a baseline water sample from the replacement well. MassDOT shall only analyze for radon in the replacement well if it is a requirement of the local Board of Health.

4. MassDOT shall collect three additional samples for salt constituents after the well is connected and put in use. Typically, these samples shall be collected every other month and shall be used to confirm the effectiveness of the remedial activity.

5. Copies of laboratory analytical data shall be released only after receiving a written request from the property owner.

6. In no instance shall MassDOT issue a release agreement or settle a claim prior to the collection of at least six monthly samples.

7. The issuance of a release agreement shall only be expedited in the event that;
   (a) A preponderance of the evidence indicates that MassDOT is the sole or significant source of salt contamination to the water supply. The data may include recent data results from a previous salt complainant in the vicinity (i.e., data collection within 2 years and within a ½ mile radius);
   (b) A resident is on a documented sodium-restricted diet; and/or
   (c) The chloride level is routinely greater than 500 mg/l.

Bottled Water

1. MassDOT shall provide a bottled water supply to eligible homeowners as described below to satisfy the human consumption rate of 2 liters/day/person (i.e., 3.5 gallons/week/person). The bottled water supply shall be initiated after MassDOT has an opportunity to collect and review the laboratory results for the first sample, and the bottled water recipient(s) sign a bottled water agreement form. The bottled water supply shall cease at the conclusion of the investigation, the successful completion of the remedial action, or the complainant's refusal to sign a release agreement with MassDOT.

2. The complainant must also satisfy the following requirements:

(a) A resident is on a documented sodium restricted diet of less than 1,000 mg/d and the sodium concentration in the water supply exceeds 20 mg/l, or;
(b) A resident is on a documented sodium restricted diet of less than 2,000 mg/d and the sodium concentration in the water supply exceeds 40 mg/l, or;
(c) The chloride concentration in a domestic supply exceeds 500 mg/l. Bottled water provided to solely address chloride shall cease if the data demonstrate that the chloride concentration is <400 mg/l for two consecutive sampling events.
(d) In addition, the system cannot be injecting sodium into the plumbing system for water softening or neutralization.

3. For small public water supplies (i.e., <4,000 gpd), such as a restaurant, MassDOT may consider providing bottled water for drinking purposes only. Signs should be posted in bathrooms and at all available drinking water taps notifying users that the water contains >20 mg/l of sodium and that individuals on sodium-restricted diets should consult their physician before consuming this tap water.

Complaint Denials

The intent of this policy is to remediate significant elevated salt concentrations of an otherwise potable and/or suitable water supply. It is not the intent of this policy to replace a poorly constructed well at the Commonwealth's expense.

1. Regardless of the sodium or chloride level, a salt contamination complaint of a drinking water supply shall be denied if the water is not otherwise potable at the tap due to the presence of non-highway related contamination in concentrations that exceed the "Massachusetts Drinking Water Standards" as specified in the current version of 310 CMR 22, "Drinking Water Regulations" or MassDEP Private Well guidelines.

2. A complaint shall be denied, regardless of the salt content of the water, if MassDOT determines that the well construction is so poor that surface contamination can readily enter the well. Examples of poor construction include but shall not be limited to dug wells with covers below grade or that readily allows surface

water infiltration, or improperly or poorly set well casing as demonstrated by use of a down-hole camera or other suitable technique.

3. During the period of monthly sampling and analysis by MassDOT, water samples shall be collected and analyzed for total coliform for three successive months. Any detection of coliform shall result in a denial of the salt contamination complaint by MassDOT.

4. The complaint may also be denied if there are significant non-MassDOT sources of salt to the water supply as determined by MassDOT's investigation. Such sources may be from municipal salt storage, municipal salt application to local roads, salt application to private properties, such as driveways and parking lots, water treatment chemicals including use of a water softener or neutralizer, industrial contamination, or other sources of salt.

5. The complaint will be closed if the complainant fails to respond to the General Instructions letter or has been provided an offer to address their elevated salt concentrations and did not accept the offer, within 60 days of receipt of the written notification.

Reopening of Denied Complaints

1. After a complaint is denied, the property owner may request that MassDOT reopen and reinvestigate the complaint. This request must include documentation that the basis for the denial has been corrected. Examples of this documentation are: (1) a water analysis that shows no coliform or (2) a detailed description with receipted bills for repairs and improvements to a poorly constructed well or (3) documentation, supported by water analyses that an appropriate, cost-effective water treatment system has been installed and is operating satisfactorily.

2. A water supply well that is denied due to the presence of coliform bacteria and where the septic system components are within the prohibited limits of 310 CMR 15.000 shall not be eligible for reopening of the salt complaint.

3. A water supply well that is denied due to the addition of a sodium based chemical via a treatment system shall require at least 6 months before re-opening. MassDOT shall request proof that the treatment system was taken off line by submission of additional laboratory analytical data of raw and tap water, or receipts for alternative treatment chemicals.

Reimbursement for Costs Resulting from Salt Contamination

1. **Water Supply Replacement**

   (a) MassDOT's investigation must document MassDOT is responsible for elevated salt concentrations in the water supply.

(b) MassDOT must determine cost-effective remedial action by evaluating appropriate alternatives. The complainant is responsible for obtaining and forwarding copies of at least three cost estimates for MassDOT review prior to initiating the work.

(c)The salt complainant must agree to pay the contractor for the appropriate, cost-effective remedial action and obtain receipted bills for submittal to MassDOT. MassDOT shall only reimburse for reasonable costs and shall not be responsible for any upgrades to the property such as landscaping (including shrubs and trees), walkways or driveways.

(d) The salt complainant must agree to keep the well pump for the salt impacted well operational, with electrical service connected and an appropriate, connected sampling tap for MassDOT.

(e) Reimbursement can only occur, if appropriate, after MassDOT has sampled monthly for at least one year and has copies of all receipts. Reduction to a six-month period may apply as long as the conditions stipulated in the Well Sampling section, item 7 have been met.

(f) MassDOT shall not be responsible for any costs associated with installation, operation, or maintenance of any equipment to address contamination not related to deicing chemicals.

(g) MassDOT shall not be responsible for costs associated with well replacement undertaken at the discretion of a complainant and that was not an effective remedial action, or repairs undertaken prior to the initial complaint.

2. **Water Treatment**

All water treatment installations should be cost effective and specifically designed for remediation of the highway deicing chemical(s) of concern. The system design and cost must be submitted to MassDOT for review prior to installation. Future maintenance costs for the water treatment to address deicing chemicals shall be addressed as part of a settlement agreement. The sizing or addition of equipment, as well as future maintenance costs for systems not specifically related to deicing chemicals shall be the sole responsibility of the property owner.

Corrosion Complaints

Where chloride concentrations in the water supply are greater than 250 ppm MassDOT shall consider conducting a corrosion study for evaluation and possible reimbursement for salt-enhanced corrosion to plumbing and water-using appliances. The property owner shall request in writing that MassDOT complete a corrosion study on their behalf. MassDOT shall deny the request for a corrosion study if the chloride concentration in the well is <250 ppm. The chloride concentration of 250 ppm shall serve only as a threshold number where MassDOT shall perform the corrosion study. The corrosion study shall be in addition to the standard salt investigation and as such may significantly delay remedial action, if applicable.

The complainant must have paid receipts specifying the plumbing repairs and must save the removed, corroded parts for MassDOT's inspection. MassDOT shall conduct a corrosion study that includes inspection and

photographing the plumbing system, metals analyses of the water (raw and after passing through the plumbing system), pH measurements, dissolved oxygen measurements and inspection of the plumbing system for dissimilar metals and electrical systems grounding.

At the completion of the corrosion study MassDOT shall make a determination on liability and report the findings in a letter report. Any reimbursement for corrosion shall be based on service life and depreciated value times a percentage of chloride effects on the component(s) taking into consideration other variables that are contributing to corrosion such as dissolved oxygen, electrical grounding, pH, and water hardness. MassDOT shall not be responsible for the full replacement value of the component(s).

Well Decommissioning

When a replacement water supply is constructed by MassDOT for a salt-contaminated well, the existing well shall be properly decommissioned. This shall prevent the existing well from serving as a conduit that could be hydraulically connected to nearby wells. This policy is in conformance with the recommendations of section 4.6 of MassDEP Publication WSC-310-91. Before MassDOT institutes any remedial action or reimbursement, the complainant must agree to abandonment of the salt-contaminated well or must assume full responsibility for the salt contamination.

In instances where the complainant requests to maintain the existing well for irrigation or other purposes the release agreement shall include language that relieves MassDOT from any future responsibility related to this well. The property owner must also provide evidence that the release agreement containing such language has been properly filed with the appropriate registry of deeds or Land Court, if registered, prior to MassDOT performing any site work.

Remedial Actions

The following are examples of remedial actions that may be taken to alleviate salt contamination of drinking water supplies. A copy of a standard release form to allow implementation of the selected remedial action is included as Appendix 9.

(1) Connection to a public water supply.

(2) Well replacement, with a relocated and properly constructed well.

(3) Rehabilitating an existing well.

(4) Installation of water treatment.

(5) Construction of a new highway drainage system or modification of an existing highway drainage system.

(6) Review of salt usage and operations on nearby state highway(s) for possible reduction in salt usage through the use of alternative deicing practices, procedures and materials.

(7) Modification of deicing salt storage, handling and housekeeping practices at a maintenance facility.

(8) Other appropriate remedial activities designed to decrease the salt concentrations in the water supply.

List of Appendices

(1) Flow chart for salt contamination complaints.

(2) Private well general instructions letter.

(3) Private well data form.

(4) Resident's certification form for bottled water request.

(5) Physician's documentation form for bottled water request.

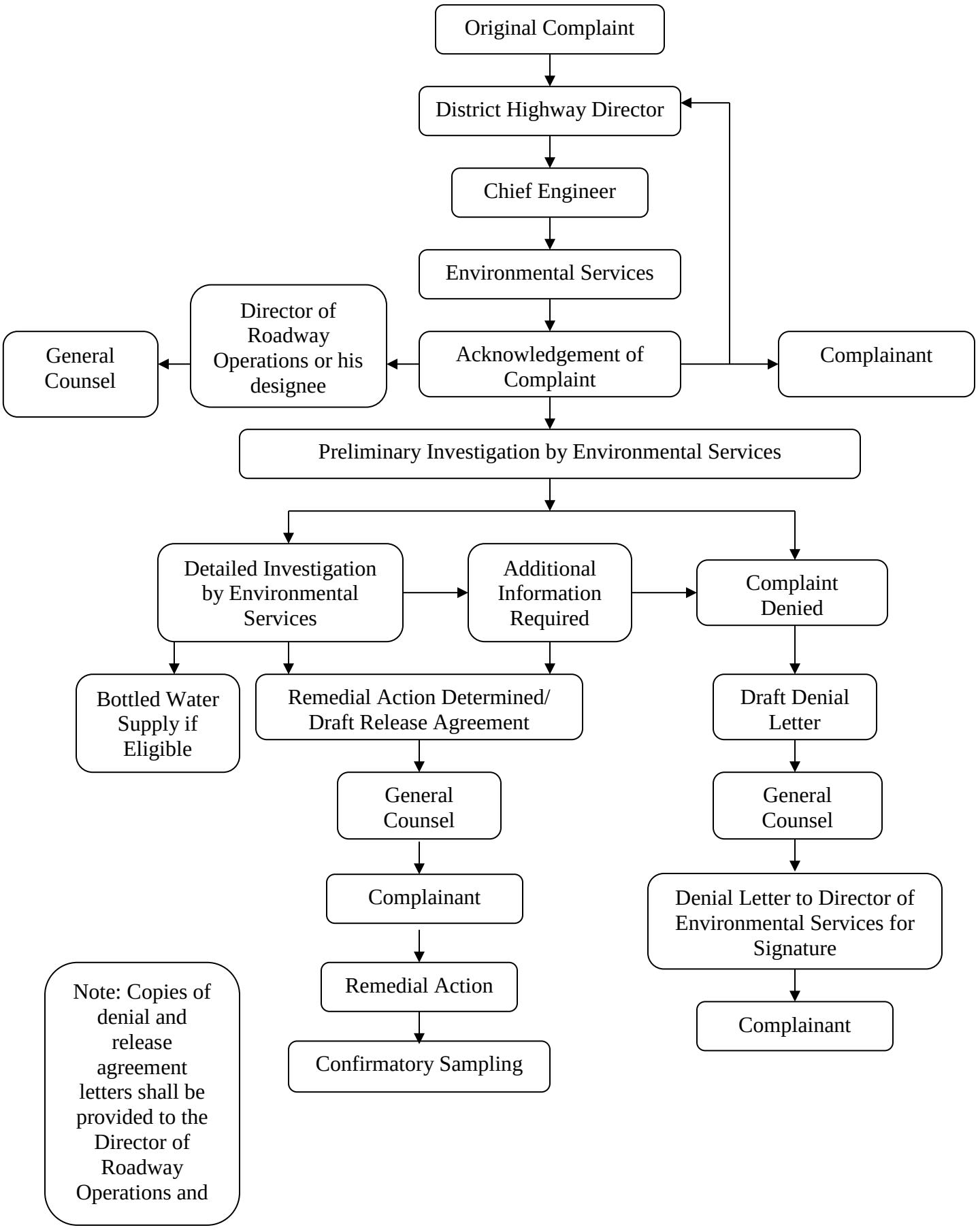
(6) Public Water supply general instructions letter.

(7) Public Water supply data form.

(8) Right of Entry Form.

(9) Typical Release Agreement Form.

Appendix 1


Original Complaint
District Highway Director
Chief Engineer
Environmental Services
Director of Roadway Operations or his designee
General Counsel
Acknowledgement of Complaint
Complainant
Preliminary Investigation by Environmental Services
Detailed Investigation by Environmental Services
Additional Information Required
Complaint Denied
Bottled Water Supply if Eligible
Remedial Action Determined/ Draft Release Agreement
Draft Denial Letter
General Counsel
General Counsel
Complainant
Denial Letter to Director of Environmental Services for Signature
Remedial Action
Complainant
Confirmatory Sampling
Note: Copies of denial and release agreement letters shall be provided to the Director of Roadway Operations and

Appendix 2

MASSDOT
ENVIRONMENTAL SERVICES
SALT REMEDIATION PROGRAM APPLICATION FOR ACCEPTANCE

GENERAL INSTRUCTIONS

INTRODUCTION

The Salt Remediation Program was established by the Massachusetts Department of Transportation (MassDOT), Highway Division to investigate elevated salt concentrations of public, private, industrial, and commercial water supplies that may be associated with the highway deicing process. This package contains application forms and instructions and should provide you with the guidance needed to submit a complete application.

REQUIREMENTS FOR ELIGIBILITY

Elevated salt concentrations in private wells shall be investigated if the well water is potable and one of the following conditions are met: 1) Chloride concentrations are 250 mg/l or greater, 2) a resident is on a sodium restricted diet of less than 1000 milligrams per day (mg/d) and the sodium concentration in the water supply exceeds 20 milligrams per liter (mg/l), or 3) a resident is on a sodium restricted diet of less than 2000 mg/d and the sodium concentration in the water supply exceeds 40 mg/l.

SUBMITTALS

1. Private Well Data Form (required)
2. Water Quality Results (required)
3. Notarized Right of Entry Form (required)
4. Physician's Documentation Form for Bottled Water Request (if applicable)
5. Resident's Certification Form for Bottled Water Request (if applicable)

WHERE TO SEND THE APPLICATION

Send the completed submittal forms to:

Supervisor
MassDOT, Highway Division
Environmental Services, Salt Remediation Program
Ten Park Plaza, Room 4260
Boston, MA 02116

MassDOT's REVIEW AND REPSONSE TO APPLICATION

If eligible, MassDOT will schedule an initial site inspection. The findings from the site inspection shall provide the basis for a determination to either: a) conduct a detailed investigation, or b) deny the complaint. You should be aware that the detailed investigation and monthly sampling of the water supply can take up to 1-year to evaluate seasonal fluctuations. Any complaint denial will include the reasons for the denial.

ADDITIONAL INFORMAITON

You can obtain additional information and forms by visiting our website at the following URL http://www.massdot.state.ma.us/highway go to Quick Links//Departments/Environmental Services and select Salt Remediation.

Questions regarding eligibility and/or completing the application forms can be directed to the Salt Program Coordinator at 857-368-8804.

Appendix 3

MASSDOT
ENVIRONMENTAL SERVICES
Salt Remediaton Program
Private Well Data Form

I. Owner Information	
Owner Name:	Home Phone:
Address:	Work Phone:
City/Town	Cell Phone:
Zip code	Email Address:
Date Property Purchased:	
II. Occupants(s)	
Name(s):	Number of Occupant(s) using well:
Address at Well Location:	Home Phone:
City/Town: Zip code:	Work Phone:
III. Well Type and Use	
Well Water Use: (you may choose more than one):	☐Domestic ☐ Agricultural ☐Commercial ☐Industrial ☐ Irrigation ☐ Other (specify):
☐ Drilled: ☐ Dug: ☐Driven: ☐Other (specify):	Estimated Daily Water Usage for all purposes in gallons per day:
IV. Well Data	
Well Depth: ☐actual ☐estimate	Screened Interval: ☐actual ☐estimate
Well Diameter: ☐actual ☐estimate	Well Yield (gpm): ☐actual ☐estimate
Well Casing Depth: ☐actual ☐estimate	Depth to Bedrock: ☐actual ☐estimate
Well Casing Material: ☐actual ☐estimate	Date Well Constructed: ☐actual ☐estimate
Type of Pump: ☐ Submersible ☐ Jet ☐Shallow ☐Other (specify):	
Pump Intake Depth (bgs): ☐actual ☐estimate	Nominal Pump Capacity (gpm):
I have enclosed a copy of the Well Completion Report and/or Well Driller invoice : ☐ yes ☐ no	
Driller's Name:	Driller's Phone:
Driller's Address:	

V. Water Quality

Describe water problems:

When did you first notice water problems?

Did you *attach a water analysis* from a MassDEP certified laboratory for: Sodium, Calcium, Chloride, and specific conductance? ☐ Yes ☐ No

Date(s) water samples were collected?

If accepted into the program would you like to receive copies of future water quality results? ☐ Yes ☐ No If Yes, ☐ Certified Mail ☐ Email

VI. Water Treatment

Do you have any water treatment or filtration equipment? ☐ Yes ☐ No

If you answered Yes above, include copies of the bills from the installer and the company that services the equipment and complete the following information.

Name of Installer: Phone Number:

Neutralizer: Softener:

Other(specify):

How much salt is used each year in your water softener? (pounds)

What chemical is used in your neutralizer? (pounds)

VII. Diagrams

Attach a Site Map showing the information listed below. You may find a plot plan or site map on file at your local assessor's office or board of health.

- The location of all property structures, well and septic system including the leaching field;
- The location of all abutting properties wells, septic systems, and leaching fields
- The state highway(s)

VIII. Certification

I hereby certify that all of the statements and information on and supplied with this application form are true and complete to the best of my knowledge and belief and that no information necessary to the resolution of this complaint

Owner's Signature: Date:

Signature of Person Preparing this Form: Date:

MASSDOT
ENVIRONMENTAL SERVICES

RESIDENT'S CERTIFICATION FORM
FOR BOTTLED WATER REQUEST

Dear Sir/Madame:

The Massachusetts Department of Transportation (MassDOT), Highway Division is investigating your complaint of elevated salt concentrations in your water supply. During our investigation, we may provide bottled water to residents whose sodium intake is restricted to less than 2000 milligrams (two grams) per day because of documented health problems.

In order to qualify for bottled water, you must:

1. Be under a doctor's care for a blood pressure or heart condition.

2. You must be on a 2000 milligrams per day, or less, sodium restricted diet.

3. You must already be purchasing diuretics and low sodium foods and can provide and maintain receipts to document these purchases.

4. You must provide a statement from your physician documenting your restricted sodium intake (see attached "Physicians Documentation Form").

5. You must notify this office of any change in your condition that removes your need for this bottled water.

6. You must certify your request for MassDOT supplied bottled water and have your signature notarized by the Notary Public as follows:

I hereby certify that all the statements and information on and supplied by this request for bottled water are true and complete to the best of my knowledge and belief, and that no information necessary to the resolution of this complaint is withheld.

Resident's signature: _____Date:_____

Appendix 4

COMMONWEALTH OF MASSACHUSETTS

_____, _____
County City/Town State

On this ____ day of _____, 20___, before me, the undersigned notary public, personally appeared _____, proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document and acknowledged to me that he/she signed it voluntarily for its stated purpose.

Before me,

_____
Notary Public
My commission expires:

If you believe that you qualify for this program, please put your request in writing, with reference to Items 1-6 above, and submit to:

Laurene Poland
MassDOT, Highway Division
Environmental Services, Salt Remediation Program
Ten Park Plaza, Room 4260
Boston, MA 02116

If you have any questions, you may contact Cate Kenna, Salt Remediation Program Coordinator, at 857-368-8804.

Appendix 5

MASSDOT
ENVIRONMENTAL SERVICES

PHYSICIAN'S DOCUMENTATION FORM
FOR BOTTLED WATER REQUEST

To the Physician:

Because of sodium levels of about _____mg/l (milligrams per liter) in the well of:
Name: _____

Address: _____

The Massachusetts Department of Transportation (MassDOT), Highway Division, may provide bottled water containing less than 20 mg/l of sodium to: _____, if he/she is required to consume less than 2000 mg of sodium daily, because of documented health problems.

Patient:

Name: _____

Address: _____
_____
_____

Telephone Number: (_____) _____

Physician:

Name: _____

Address: _____
_____
_____

Telephone Number: (_____) _____

1. Has this patient been treated for congestive heart failure? ___ Yes ___ No	4. Is this patient required to consume only foods that are low in sodium? ___ Yes ___ No
2. Have you restricted this patient's? daily sodium intake to 1000 milligrams (1 gram) or less? ___ Yes ___ No	5. Should this patient be provided with Bottled water containing less than 20 mg/l of sodium? ___Yes ___ No
3. Have you restricted this patient's? daily sodium intake to 2000 milligrams (2 grams) or less? ___ Yes ___ No	6. Is this patient required to use diuretics? ___ Yes ___ No

Please notify this office of any change in this patient's condition, which obviates the need for bottled water. Any bottled water provided by MassDOT Highway Division will be purchased through public tax dollars.

CERTIFICATION

I hereby certify that all of the statements and information on and supplied with this form are true and complete to the best of my knowledge and belief, and that no information necessary to the resolution of this complaint is withheld.

Appendix 5

Physician's signature: _____ Date: _____

Please mail completed form to:

Laurene Poland
MassDOT, Highway Division
Environmental Services, Salt Remediation Program
Ten Park Plaza, Room 4260
Boston, MA 02116

If you have any questions, you may contact Cate Kenna, Salt Remediation Program Coordinator, at 857-368-8804.

Appendix 6

Chairperson, Board of Selectmen
P.O. Box 123
Anytown, MA 01234

Dear Chairperson:

With reference to your telephone conversation with Mr. Richard Smith, on **date**, regarding your concern about salt concentrations of the Anytown public water supply, attached is a copy of our "Public Water Supply Data Form." Please have the water Department superintendent complete the form and submit all of the requested data to this office.

The supporting data should clearly define the extent of state highways that lie within the Zone II of the municipal wells and the drainage basin of the reservoirs.

After we review the data submitted with the form, an appointment for a site visit shall be made with the water Department superintendent. If it appears that MassDOT may be a significant source of sodium to the water supply, the water Department shall be required to provide us with monthly water analyses for sodium, calcium, chloride and specific conductance for at least one year. A comparison shall be made between the sodium and chloride fluctuations and trends in the water supply with the historical annual salt applications to the state highway.

If the results of our investigation indicate that MassDOT winter maintenance operations are the source of a significant portion of the sodium concentration in the municipal water supply, MassDOT shall evaluate appropriate remedial actions. Any investigation and/or remediation for public water supplies shall be conducted in cooperation with the Water Supply Section of the Massachusetts Department of Environmental Protection.

If you have any questions, please contact Mr. Richard Smith at 508-555-1111. MassDOT appreciates the opportunity to assist Anytown in this matter.

Very truly yours,

MassDOT, Environmental Services
Supervisor, Remediation Programs

Appendix 7

MASSDOT
ENVIRONMENTAL SERVICES
Salt Remediaton Program
Public Water Supply Data Form

Please complete this form, attach all requested data and send to: Laurene Poland, MassDOT, Highway Division, Ten Park Plaza, Room 4260, Boston MA 02116.

If you have any questions please call Cate Kenna, Salt Remediation Program Coordinator at 857-368-8804.

I. Water Department	
Name of Water Department:	Phone:
Address:	City/Town:
Zip code	Name of Superintendent:
Email Address:	
II. Location of Municipal wells(s) and /or reservoir(s) containing more than 20 milligrams per liter of sodium. *Please attach a map showing* :	
A.) The Well and /or Reservoir Locations(s)	
B.) The State Highway(s)	
C.) The "Zone II" area of the Aquifer and Drainage Basin Boundaries	
III. Location of other municipal well(s) and /or reservoir(s) operated by your Water Department.	
A.) The Well(s) and /or Reservoir Locations	
B.) The State Highways	
C.) Town Roads	
D.) Municipal & Private Salt Storage Areas	
IV. Analytical Data	
Please attach copies of <u>all</u> water analyses for the well(s) and /or reservoir(s) with 20 mg/L or more of sodium for at least the past ten years. Please include analyses for all constituents tested as well as the sodium. Please attach similar data from the water analyses of sample collected at the "free-flowing tap".	

V. Water Treatment

List, on a separate page, all water treatment equipment and chemicals used. Include annual quantities of chemicals used and the concentration of sodium in mg/L that is added to the water through the use of these chemicals.

VI. Geohydrologic Data

Attach a copy of all boring logs, engineering studies, pumping tests, well completion reports, hydrologic studies, etc. for the well(s) and /or reservoir(s) containing more than 20 mg/L of sodium.

VII. Pumpage Data

List by month, the annual pumpage for at least the past ten years for all municipal Well(s) and /reservoir(s) operated by your water department.

VIII. Certification

I hereby certify that all of the statement and information on and supplied with this form are true and complete to the best of my knowledge and belief and that no information necessary to the resolution of this complaint is withheld.

Signature of water superintendent or water commissioner:

Name:

Date:

Title:

Appendix 8

MASSDOT
ENVIRONMENTAL SERVICES

RIGHT OF ENTRY

I/We, _____, the sole owners(s) of property located at _____, Massachusetts ("Property"), do hereby grant permission to the Massachusetts Department of Transportation (MassDOT), Highway Division and its duly authorized agents and contractors to enter upon the Property for the purpose of collecting water samples and pertinent data related to the water supply well and plumbing system to evaluate the impact of highway deicing salt use on the water supply. These samples will be collected on a monthly basis for a sufficient length of time to make a determination based on the results of the water analyses. All costs connected with the above described work shall be borne by MassDOT, Highway Division.

*Signed this _____ day of _____, 20_____

Signatures of Property Owner(s) _____
_____

_____
_____

(Print Name) (Print Name)

COMMONWEALTH OF MASSACHUSETTS

_____ _____
County City/Town State

On this ____ day of _____, 20____, before me, the undersigned notary public, personally appeared _____, proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document and acknowledged to me that he/she signed it voluntarily for its stated purpose.

Before me,

_____
Notary Public
My commission expires:

MASSDOT
ENVIRONMENTAL SERVICES

RIGHT OF ENTRY AND RELEASE

We/I, _____, the owner/owners of property (or the "Owner") located at _____, Massachusetts ("Property"), do hereby grant permission to the Massachusetts Department of Transportation, Highway Division ("MassDOT") and its duly authorized agents and contractors to enter upon the Property to: (a)(1) rehabilitate the existing well by installing a well-sleeve to prevent the infiltration of salty water into the existing well; (2) drill no more than two (2) Test Wells for evaluation by MassDOT as a Replacement Water Supply ("Replacement Well"); or (3) install a Reverse Osmosis (RO) or other appropriate treatment system to reduce the concentrations of chloride in our existing water supply or a test well, depending on water quality data; or (b) install, if needed, a Water Treatment Unit to reduce common dissolved minerals; or (c) install or reinstall and connect a Pump System; or (d) excavate an area sufficient to connect the Replacement Well to the existing water supply system plumbing; or (e) properly abandon the existing Water Supply Well with neat cement grout; or (f) take other reasonable measures to provide a Replacement Well on the Property. Upon the implementation of one or more of the above-mentioned activities, the Property's existing landscaping returned to its original condition, to the extent possible and practicable by MassDOT.

We/I understand and agree that all costs associated with the tasks set for in Paragraph 1 above, if applicable, shall be borne by MassDOT.

We/I understand and agree that MassDOT will provide us with a one-time lump sum payment to cover costs for operation and maintenance of a RO system, if installed as a permanent solution. The settlement payment amount will be determined based on the type of system installed and will not be made until the RO equipment has been installed and a copy of the recorded deed discussed below in Paragraph 4 has been provided to MassDOT.

We/I understand and agree that information related to the installation of the RO system as remedial action to the salt constituent contamination in the existing water supply or a test well depending on water quality data, must be placed on the Property deed and registered by us with the XXXXX County Registry of Deeds. All costs associated with placing this information on the deed will be borne by the Owner.

We/I understand and agree that the purpose of this work is solely to correct sodium and chloride contamination of the water supply for the Property. With the exception of sodium and chloride, if water analyses document that any constituent(s) found in water samples collected from the original water supply well exceed Massachusetts Drinking Water Standards or Guidelines, MassDOT will not be responsible for remediating those constituents. The yield of the replacement well, if applicable, shall meet or exceed the present demand on the existing water supply well. All costs connected with the above-described work shall be borne by MassDOT.

We/I understand and agree that we/I will be provided with the manufacturer's warranty, where applicable. The manufacturer and/or installer shall be responsible for correcting, repairing or replacing any defective equipment or workmanship, as specified in the warranty, during the warranty period. All future operation and maintenance costs, including, but not limited to, electrical service maintenance or improvement, pump maintenance, electricity usage, the cost of filters, filter maintenance or other supplies, shall be solely our responsibility and not the responsibility of MassDOT.

In consideration of MassDOT's completion of the work as described in Paragraph 1 above we/I, on behalf of ourselves, our predecessors, successors, heirs, assigns and agents, and any and all other persons or entities acting on our behalf, hereby forever release and discharge the Commonwealth, and all of its political subdivisions, departments, offices, agencies, agents, employees and assigns of and from any and all past, present and future actions, causes of action, claims for damages, injunctive relief, orders, suits, debts, demands, judgments, accounts, covenants, contracts, agreements, liabilities, attorneys' fees, damages, costs, sums of money, and any other rights, demands, claims, suits or liabilities of any kind, including those related to vegetation damage and plumbing corrosion, whether under statutory or common law, whether or not heretofore known, suspected or asserted, and by whomever suffered, incurred or asserted, arising out of or relating in any way to the elevated sodium or chloride levels present in the original water supply for the Property or arising out of or relating to work done by MassDOT or its agents or contractors to correct this problem.

Signed this _____day of _____, 20___

Print Name: _____

Signature: _____

Print Name: _____

Signature: _____

COMMONWEALTH OF MASSACHUSETTS

COUNTY: _____ DATE: _____

On this _____day of _____, 20___, before me, the undersigned notary public, personally appeared_____, proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document and acknowledged to me that he/she signed it voluntarily for its stated purpose.

Before me,

_____
Notary Public
My commission expires: